

What is claimed is:

A video imaging system, comprising:

a camera head for generating image data;

a camera control unit; and

a cable, for connecting said camera head to said camera control unit,  
said cable including in a single protective jacket enclosing:

at least one channel for transmitting information between said  
camera head and said camera control unit, and

a light source guide for transmitting light to said camera head for  
use in generating the image data.

2. The video imaging system according to claim 1 wherein said at least  
one channel comprises two electrical conductors.

3. The video imaging system according to claim 1 wherein said cable  
comprises two channels.

4. The video imaging system according to claim 1 wherein said cable  
comprises four channels.

5. The video imaging system according to claim 4 wherein said four  
channels comprise eight electrical conductors.

6. The video imaging system according to claim 1 wherein said camera  
control unit generates commands for operation of said camera head, and  
wherein said at least one channel transmits the commands from said camera  
control unit to said camera head.

7. The video imaging system according to claim 1 wherein each of said at  
least one channel transmits information in a single direction between said  
camera head and said camera control unit.

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8. The video imaging system according to claim 1 wherein said at least one channel transmits at least two types of information in a single direction.
9. The video imaging system according to claim 1 wherein said at least one channel transmits at least two types of information, and wherein the two types of information are multiplexed.
10. The video imaging system according to claim 9 wherein the two types of information include image data and control data generated by said camera head.
11. The video imaging system according to claim 9 wherein the multiplexed information is de-multiplexed in the camera control unit.
12. The video imaging system according to claim 1 wherein said camera head generates control data, and wherein said at least one channel of said cable transmits the control data from said camera head to said camera control unit.
13. The video imaging system according to claim 1 further comprising a light source.
14. The video imaging system according to claim 13 wherein said light source is mounted within said camera control unit.
15. The video imaging system according to claim 13 wherein the light output from said light source is connected to said light source guide of said cable.
16. The video imaging system according to claim 13 wherein an light output of said light source is connected to said camera control unit.
17. The video imaging system according to claim 16 wherein said cable is detachably connectable to said camera control unit by a connector, and

wherein the light output of said light source passes through said camera control unit to the connector.

18. The video imaging system according to claim 17 wherein said camera control unit further comprises a sleeve to facilitate the guiding of the light output of said light source to the connector.

19. The video imaging system according to claim 1 wherein said cable is wired to said camera head.

20. The video imaging system according to claim 13 further comprising an endoscope, and wherein said camera head receives light from said light source guide and transmits it to said endoscope.

21. The video imaging system according to claim 20 wherein the light is transmitted through said camera head.

22. The video imaging system according to claim 20 wherein the light is transmitted from said camera head to said endoscope through an intermediate coupling mounted to said camera head and a cable for connection between said intermediate coupling and said endoscope.

23. The video imaging system according to claim 13 wherein the camera control unit further comprises a light deflector, mounted along a path between the light output of said light source and the light source guide, to sever the path once the cable is disconnected from the camera control unit.

24. The video imaging system according to claim 1 wherein the at least one channel utilizes a digital serial protocol.

25. The video imaging system according to claim 24 wherein the digital serial protocol is Low-Voltage Differential Signals.

26. A video imaging system, comprising:  
a camera head for generating image data; and

a cable for transmitting the image data, said cable including in a single protective jacket enclosing:

at least one electrical channel for transmitting the image data from said camera head to a camera control unit, and

a light source guide for transmitting light to said camera head for use in generating the image data.

27. The video imaging system according to claim 26 wherein said at least one channel comprises two electrical conductors.

28. The video imaging system according to claim 26 wherein said cable comprises two channels.

29. The video imaging system according to claim 26 wherein said cable comprises four channels.

30. The video imaging system according to claim 29 wherein said four channels comprise eight electrical conductors.

31. The video imaging system according to claim 26 wherein said at least one channel transmits at least two types of information in a single direction.

32. The video imaging system according to claim 26 wherein said at least one channel transmits at least two types of information, and wherein the two types of information are multiplexed.

33. The video imaging system according to claim 32 wherein the two types of information include image data and control data generated by said camera head.

34. The video imaging system according to claim 26 wherein said cable is wired to said camera head.

35. The video imaging system according to claim 26 further comprising an endoscope, and wherein said camera head receives light from said light source guide and transmits it to said endoscope.
36. The video imaging system according to claim 35 wherein the light is transmitted through said camera head.
37. The video imaging system according to claim 35 wherein the light is transmitted from said camera head to said endoscope through an intermediate coupling mounted to said camera head and a cable for connection between said intermediate coupling and said endoscope.
38. The video imaging system according to claim 26 wherein the at least one channel utilizes a digital serial protocol.
39. The video imaging system according to claim 38 wherein the digital serial protocol is Low-Voltage Differential Signals.
40. A video imaging system, comprising:  
a camera head for generating image data;  
a camera control unit; and  
a cable, for connecting said camera head to said camera control unit, said cable including in a single protective jacket enclosing:  
at least one electrical channel for transmitting information between said camera head and said camera control unit, and  
a light source guide for transmitting light to said camera head for use in generating the image data.
41. A video imaging connection system comprising:  
a receptacle, having optical and electrical components, for receiving a connector; and  
a connector detachably connectable with the receptacle, having a body with a front surface, a light source guide and an electrical edge-connector terminating beyond the front surface, the light source guide and electrical

edge-connector engaging the optical and electrical components, respectively, upon advancement of the connector into the receptacle.

42. The video imaging system connector according to claim 41 wherein the electrical edge-connector is a printed wiring board.

43. The video imaging system connector according to claim 42 wherein the electrical edge-connector is keyed for connection to the receptacle.

44. The video imaging system connector according to claim 41 wherein the body is keyed for connection to the receptacle.

45. The video imaging system connector according to claim 41 further comprising a light deflector, which obstructs a path between said connector and said receptacle once the connector is removed from the receptacle.

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